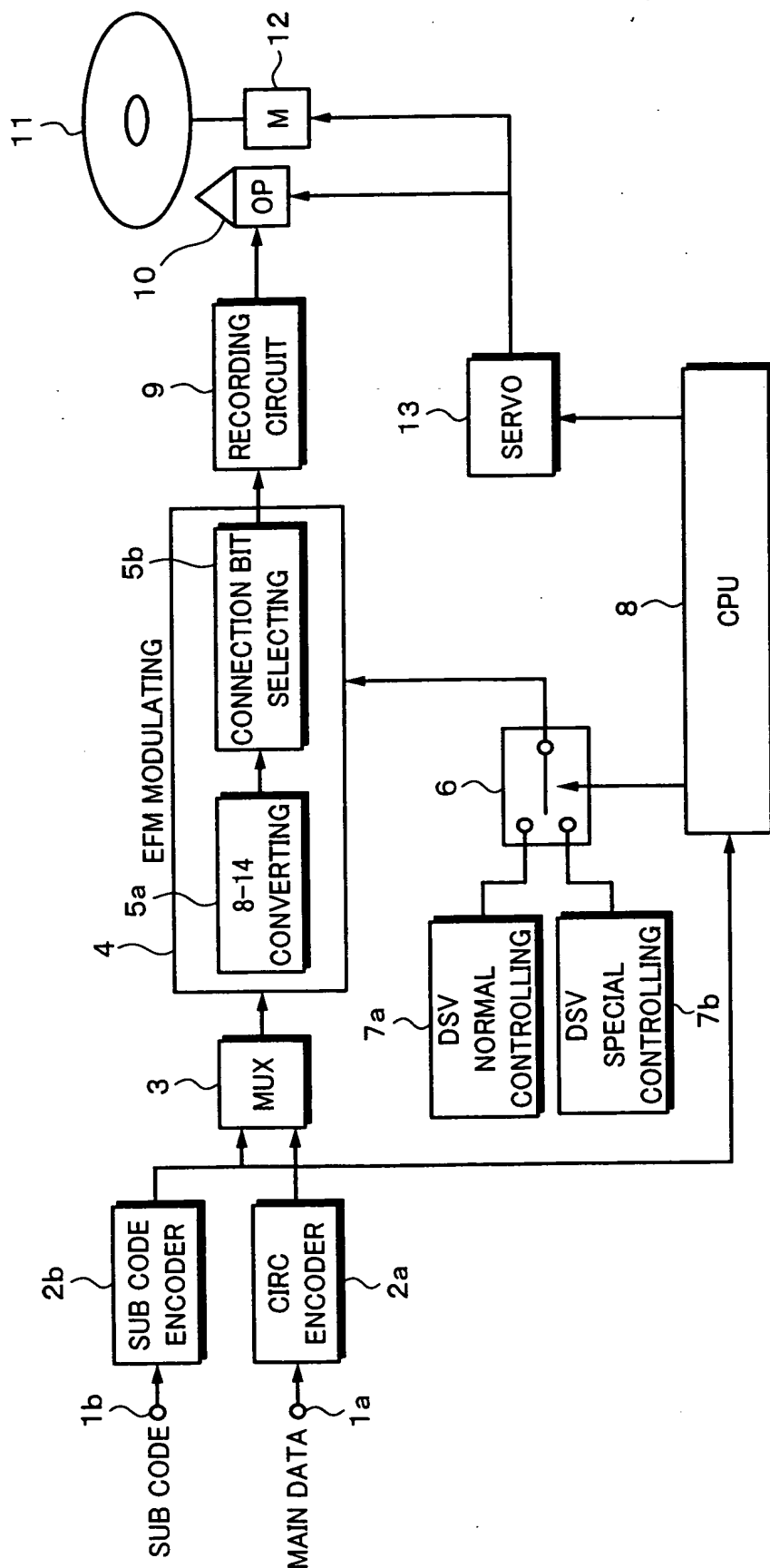


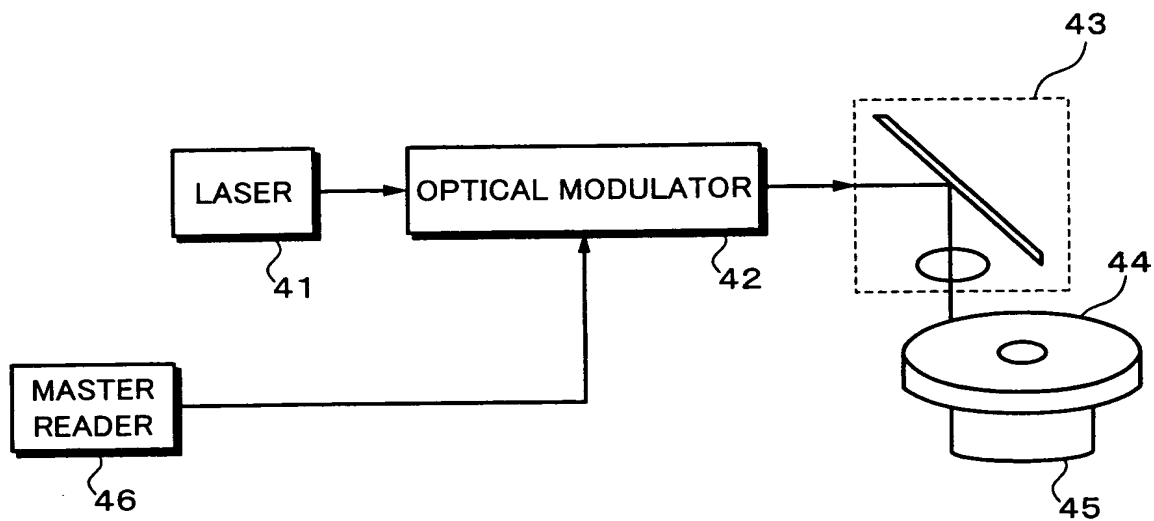
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Fig. 1



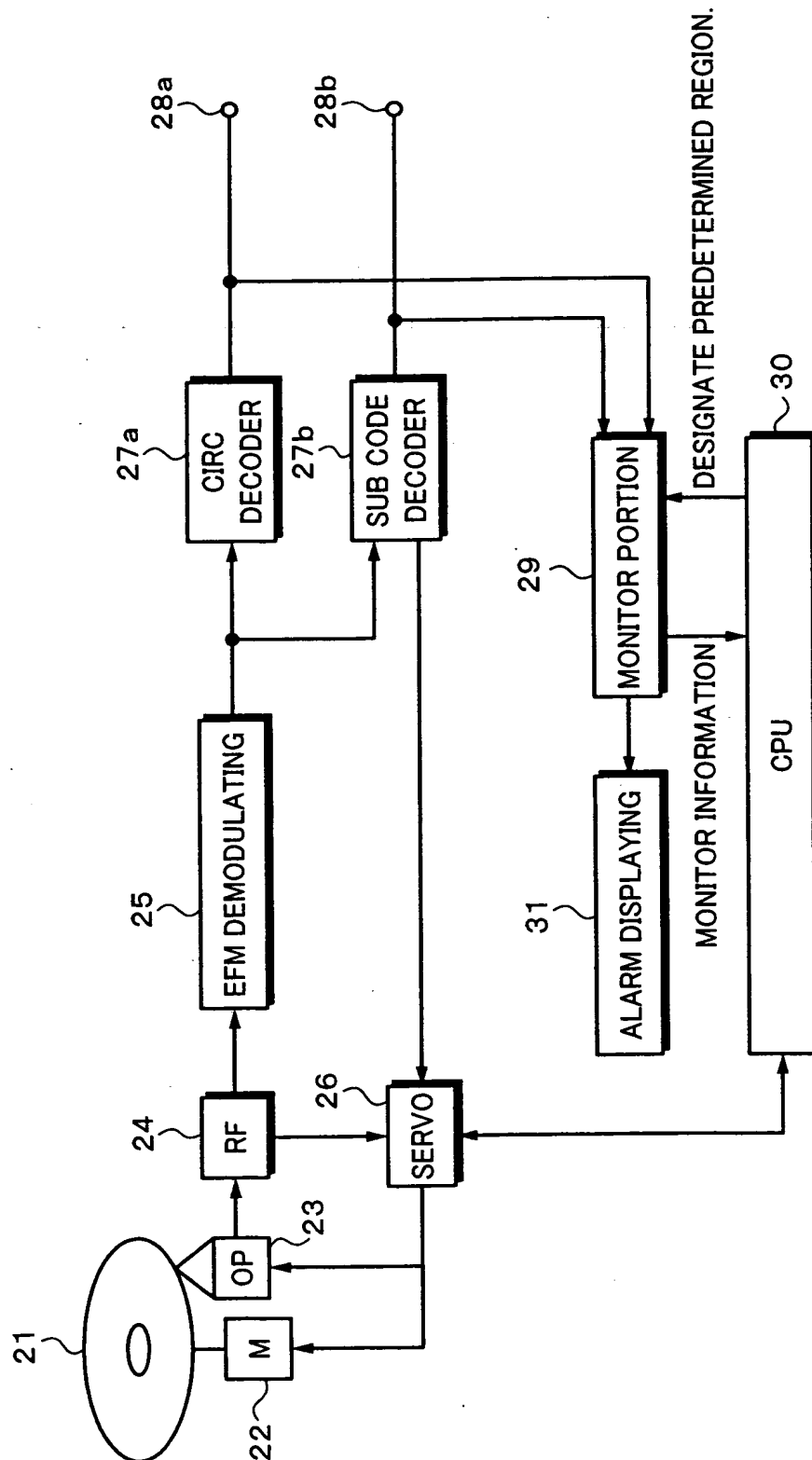
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Fig. 2



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Fig. 3



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Fig. 4

		DATA BITS	CHANNEL BITS
		d1 d8	d1 c14
00	0	0 0 0 0 0 0 0 0	0 1 0 0 1 0 0 0 1 0 0 0 0 0
01	1	0 0 0 0 0 0 0 1	1 0 0 0 0 1 0 0 0 0 0 0 0 0
02	2	0 0 0 0 0 0 1 0	1 0 0 1 0 0 0 0 1 0 0 0 0 0
03	3	0 0 0 0 0 0 1 1	1 0 0 0 1 0 0 0 1 0 0 0 0 0
		⋮	⋮
80	128	1 0 0 0 0 0 0 0	0 1 0 0 1 0 0 0 1 0 0 0 0 1
81	129	1 0 0 0 0 0 0 1	1 0 0 0 0 1 0 0 1 0 0 0 0 1
82	130	1 0 0 0 0 0 1 0	1 0 0 1 0 0 0 0 1 0 0 0 0 1
83	131	1 0 0 0 0 0 1 1	1 0 0 0 1 0 0 0 1 0 0 0 0 1
		⋮	⋮
8C	140	1 0 0 0 1 1 0 0	0 1 0 0 0 0 0 1 0 0 0 0 0 1
		⋮	⋮
98	152	1 0 0 1 1 0 0 0	0 1 0 0 1 0 0 0 0 0 0 0 0 1
		⋮	⋮
B8	184	1 0 1 1 1 0 0 0	0 1 0 0 1 0 0 0 0 0 1 0 0 1
		⋮	⋮
BA	186	1 0 1 1 1 0 1 0	1 0 0 1 0 0 0 0 0 0 1 0 0 1
		⋮	⋮
C9	201	1 0 1 1 1 0 0 0	1 0 0 0 0 1 0 0 0 0 0 0 0 1
		⋮	⋮
E2	226	1 0 1 1 1 0 1 0	1 0 0 0 0 1 0 0 0 1 0 0 1 0

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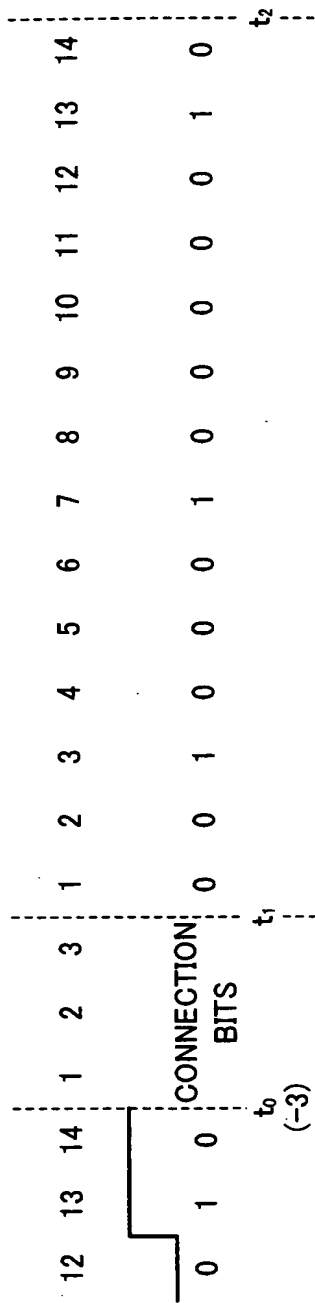


Fig. 5A

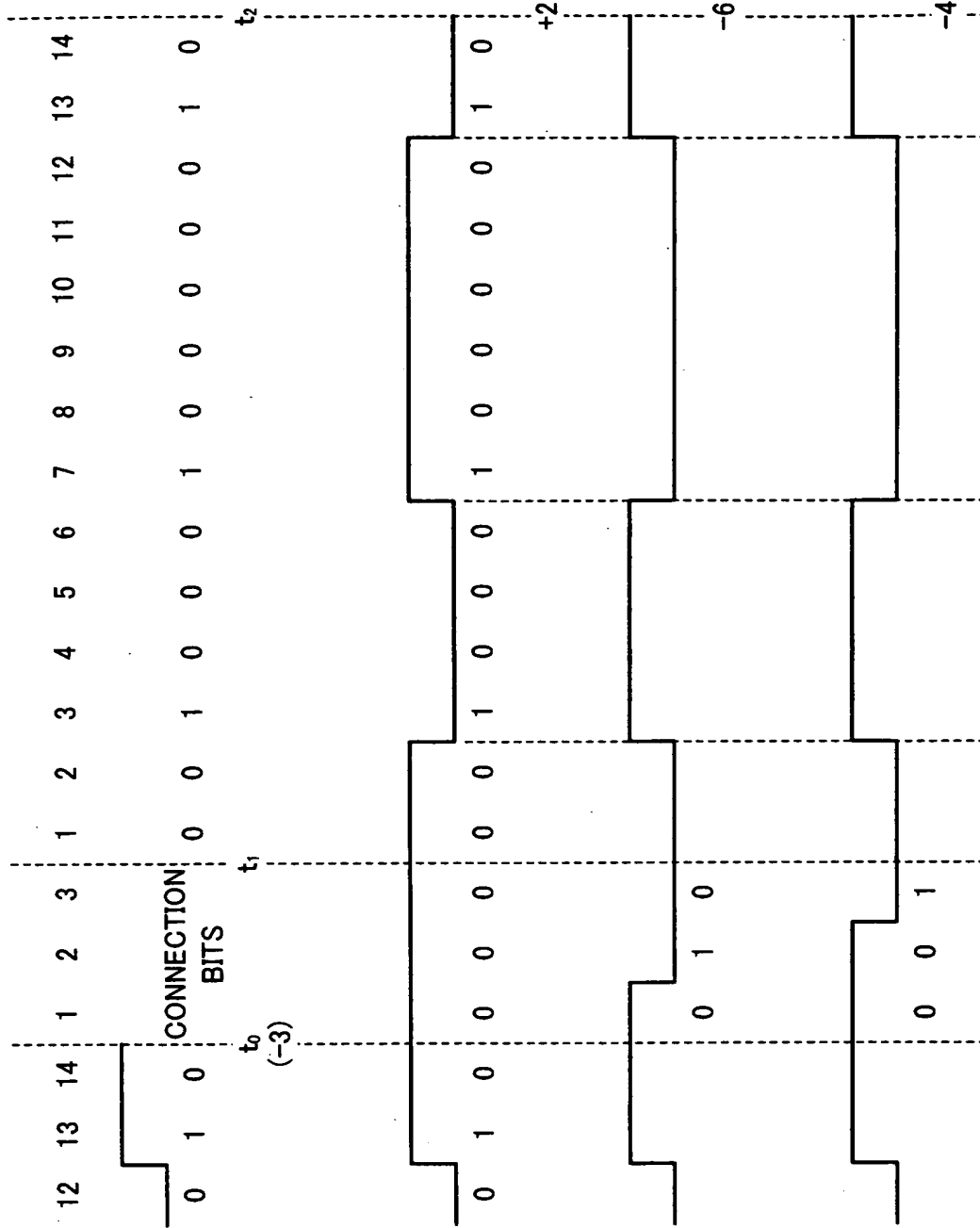


Fig. 5B

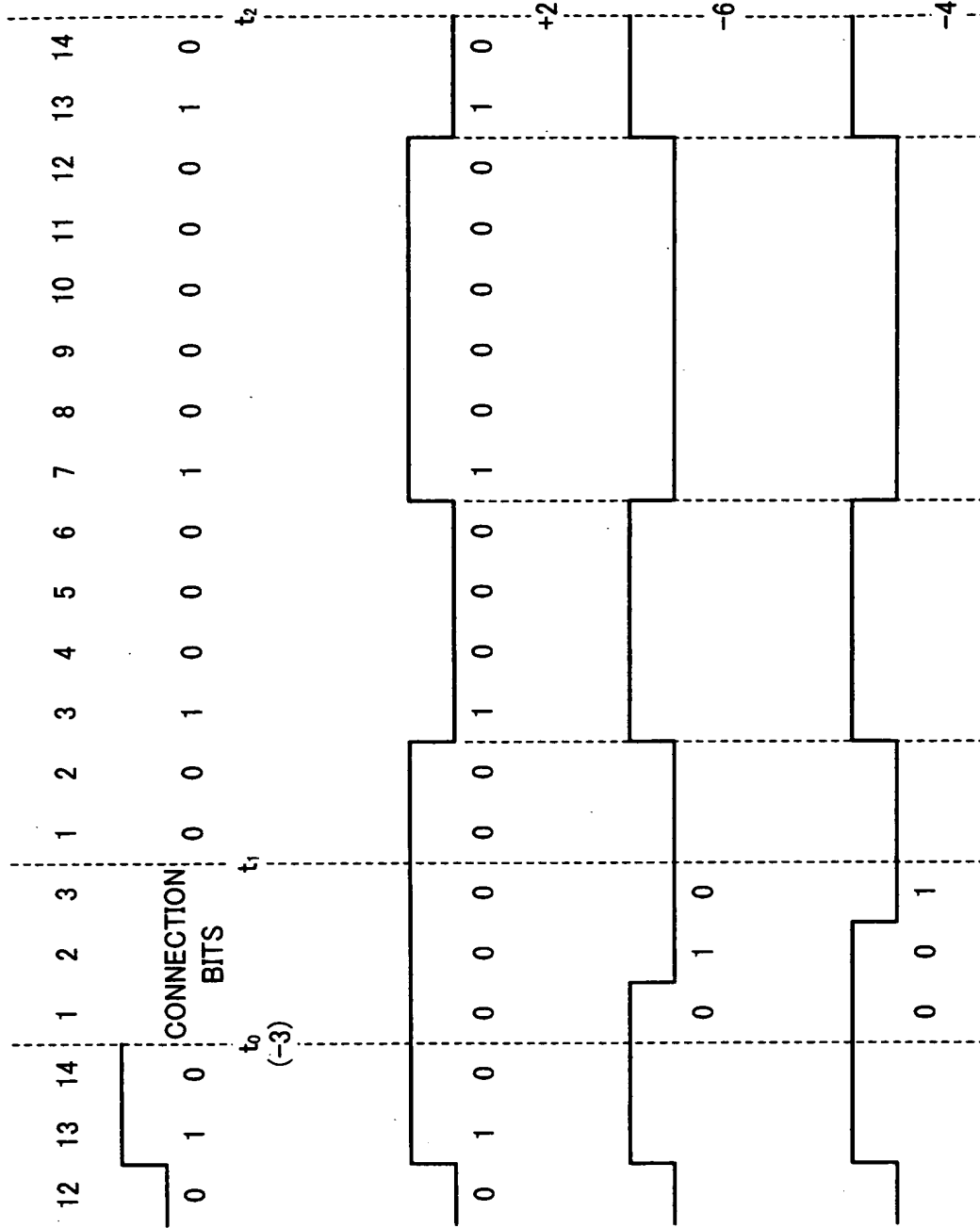


Fig. 5C

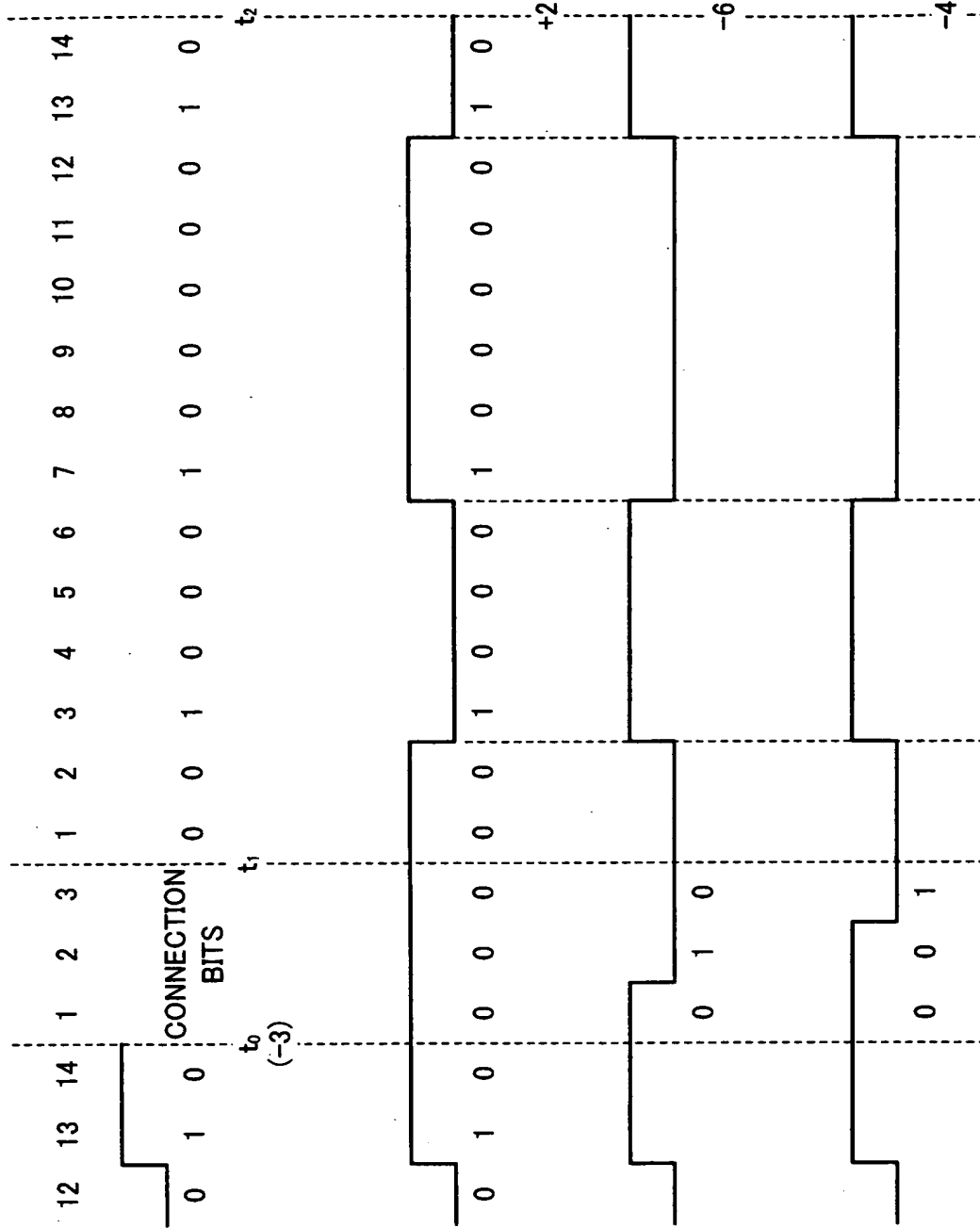
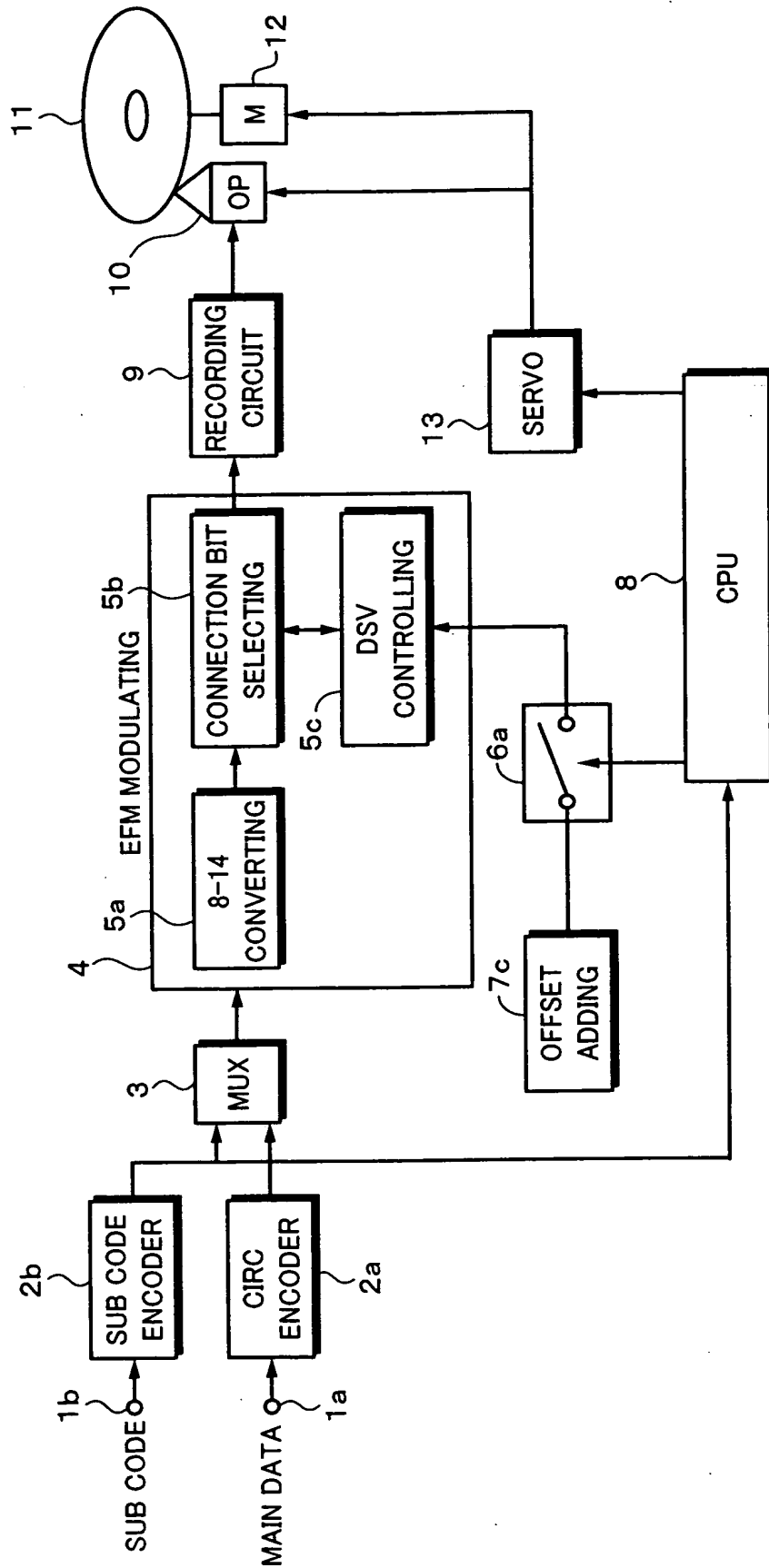


Fig. 5D



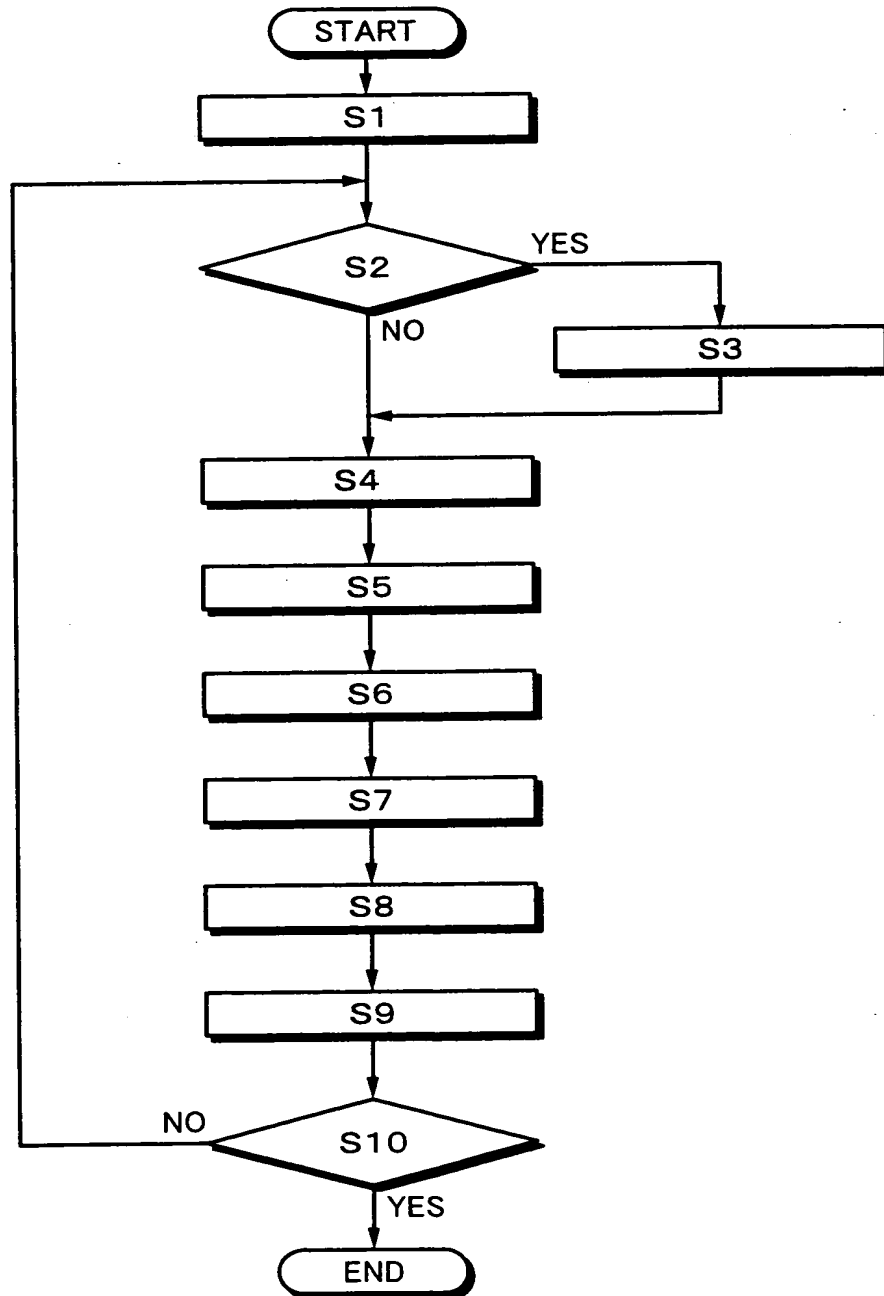
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Fig. 7



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Fig. 8



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Fig. 9

SYNC/DATA	EFM SIGNAL	d-DSV	DSV
SYNC	111111111110000000000011	2	2
S0	111 110000000000001	-5	-3
[24]	111 100001111110000	1	-2
[5F]	111 110000000000111	-1	-3
[5E]	110 00011111111000	3	0
[1F]	001 110000000011111	-1	-1
[3E]	110 000111111110000	1	0
[54]	011 100000111111000	-1	-1
[57]	011 110000111111000	1	0
[3F]	011 110000000001111	-1	-1
[5E]	100 000111111111000	1	0
[44]	011 10000111000111	1	1
[3E]	110 000111111110000	1	2
[56]	001 111000111111000	1	3
[4E]	000 000111110000111	-3	0
[3C]	100 011111111110000	3	3
[4E]	000 000111110000111	-3	0
[48]	100 011100011111000	-1	-1
[28]	011 10001110001111	3	2
[4F]	111 110000011111000	1	3
[1E]	000 000111111100000	-5	-2
[18]	111 100011111100000	1	-1

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Fig. 10

SYNC/DATA	EFM SIGNAL	d-DSV	DSV
[53]	000 00111111000111	1	0
[4C]	000 011111110000111	1	1
[38]	100 01110000001111	-1	0
[2E]	000 00011110001111	-1	-1
[1F]	110 00111111100000	1	0
[5E]	001 11100000000111	-3	-3
[5D]	111 11110000000111	3	0
[5C]	000 01111111111000	3	3
[4F]	001 11000001111000	-3	0
[48]	011 10001110000111	1	1
[34]	111 10000011110000	-1	0
[3F]	011 11000000001111	-1	-1
	111	3	2
SYNC	000000000001111111111100	-2	0
S1	001 11111111100011	7	7
[34]	111 10000011110000	-1	6
[3F]	000 00111111110000	-1	5
[5D]	000 00001111111000	-3	2
[1F]	001 11000000011111	-1	1
[5F]	111 11000000000111	-1	0
[40]	100 01110000111000	-3	-3
[28]	011 10001110001111	3	0
[57]	110 00111100000111	1	1
[34]	111 10000011110000	-1	0

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Fig. 11

SYNC/DATA	EFM SIGNAL	d-DSV	DSV	R
SYNC	111111111110000000000011	2	2	
S1	111 110000000000001	-5	-3	-3
[24]	111 10000111110000	1	-2	-62
+60 IS DESIGNATED.				
[5F]	111 110000000000111	-1	-3	-63
[5E]	110 00011111111000	3	0	-60
[1F]	111 110000000011111	3	3	-57
[3E]	111 111000000001111	3	6	-54
[54]	100 011111000000111	1	7	-53
[57]	111 11000011111000	3	10	-50
[3F]	111 110000000001111	1	11	-49
[5E]	110 00011111111000	3	14	-46
[44]	111 10000111000111	3	17	-43
[3E]	111 111000000001111	3	20	-40
[56]	110 000111000000111	-1	19	-41
[4E]	111 11100001111000	3	22	-38
[3C]	111 100000000001111	-1	21	-39
[4E]	111 11100001111000	3	24	-36
[48]	111 100011100000111	3	27	-33
[28]	111 10001110001111	5	32	-28
[4F]	110 001111100000111	3	35	-25
[1E]	111 111000000011111	5	40	-20
[18]	111 10001111100000	1	41	-19

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Fig. 12

SYNC/DATA	EFM SIGNAL	d-DSV	DSV	R
[53]	000 001111111000111	1	42	-18
[4C]	100 011111110000111	3	45	-15
[38]	111 10001111110000	3	48	-12
[2E]	000 00011110001111	-1	47	-13
[1F]	111 11000000011111	3	50	-10
[5E]	111 11100000000111	1	51	-9
[5D]	111 11110000000111	3	54	-6
[5C]	100 01111111111000	5	59	-1
[4F]	111 11000001111000	1	60	0
[48]	011 10001110000111	1	61	1
[34]	111 10000011110000	-1	60	0
[3F]	011 11000000001111	-1	59	-1
	111	3	62	
SYNC	000000000001111111111100	-2	-2	
S1	001 11111111100011	7	5	5
[34]	100 01111100001111	3	8	-52
+60 IS DESIGNATED.				
[3F]	111 11000000001111	1	9	-51
[5D]	111 11110000000111	3	12	-48
[1F]	110 00111111100000	1	13	-47
[5F]	000 00111111111000	1	14	-46
[40]	111 10001111000111	5	19	-41
[28]	111 10001111000111	5	24	-36
[57]	111 11000011111000	3	27	-33
[34]	000 01111100001111	1	28	-32

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Fig. 13

DATA SYMBOL	STATE 1		STATE 2		STATE 3		STATE 4	
	MSB	LSB	MSB	LSB	MSB	LSB	MSB	LSB
0	001000000001001	1	0100000100100000	2	0010000000001001	1	0010000000001001	2
1	001000000001010	1	0010000000010010	1	1000000100100000	3	0010000000001010	3
.....
254	0000001001000100	2	01000100000010001	1	10010000000010000	2	01000100000010001	1
255	0000001000001000	2	01000010000010010	1	10001001000010000	2	01000010000010010	1

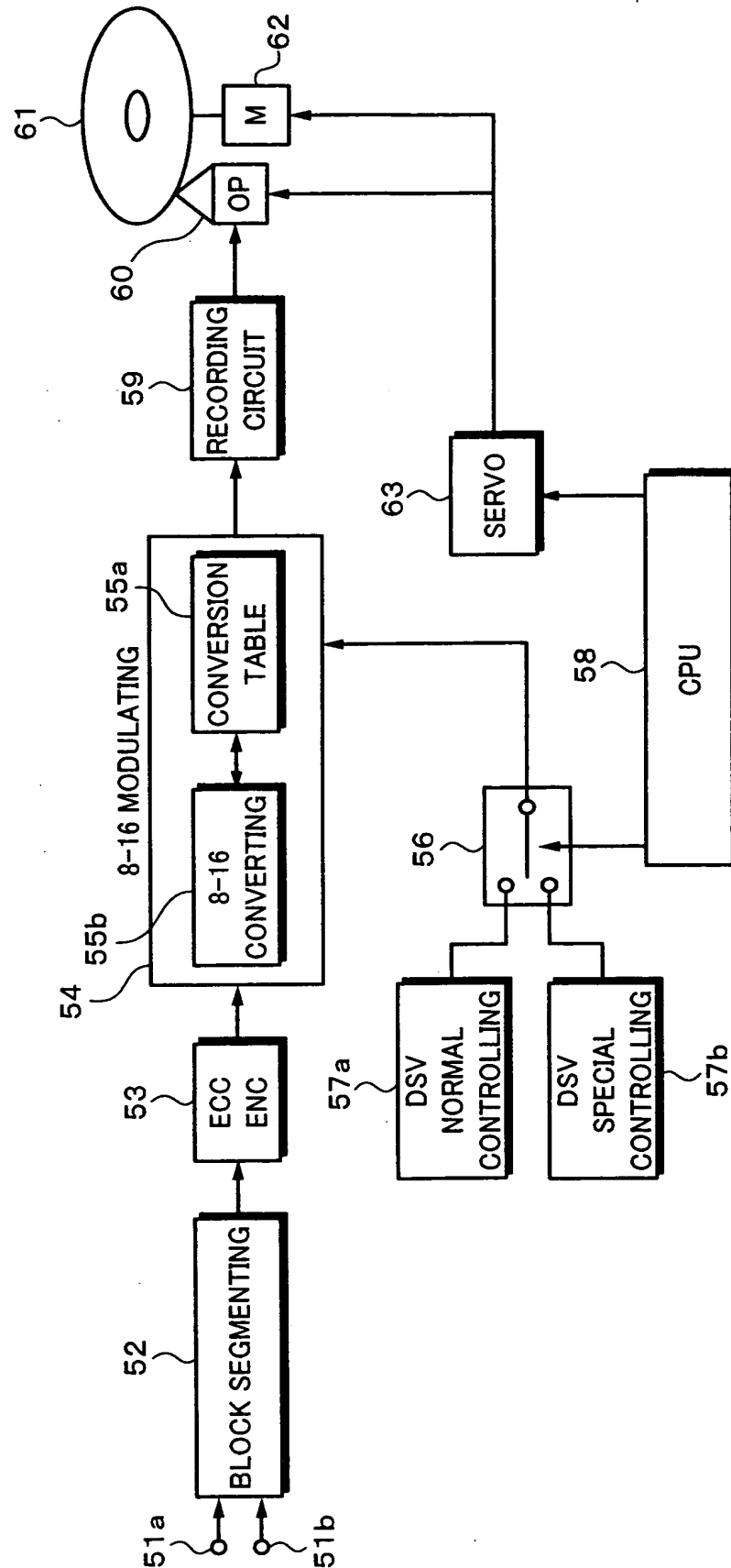
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Fig. 14

DATA SYMBOL	STATE 1		STATE 2		STATE 3		STATE 4		NEXT STATE
	CODE WORD	LSB	CODE WORD	MSB	CODE WORD	MSB	CODE WORD	MSB	
0	0000100100000000	4	0000010010000000	4	0100100001001000	2	0100100001001000	2	
1	0000100100000000	4	0000100100000000	4	0100100001001000	3	0100100001001000	3	
.....

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Fig. 15



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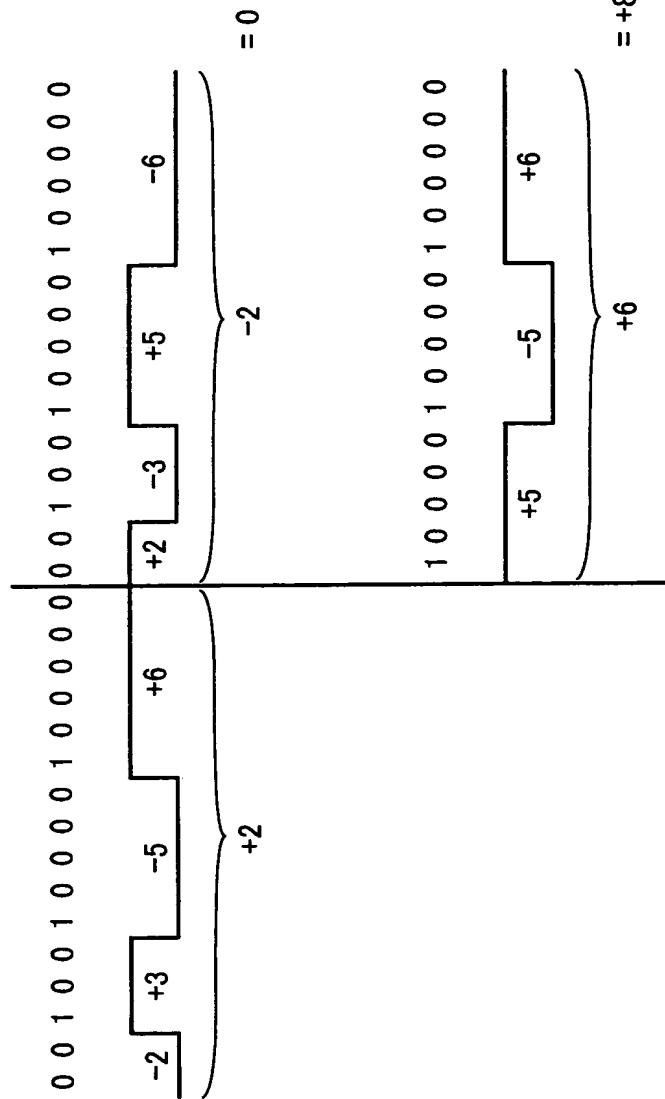
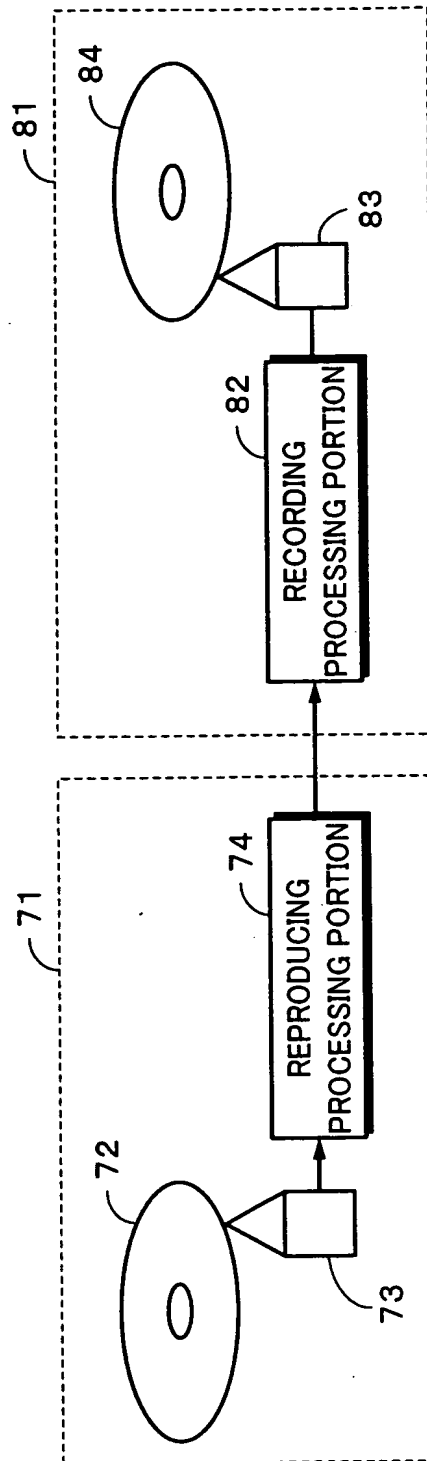


Fig. 16A

Fig. 16B

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Fig. 17



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DESCRIPTION OF REFERENCE NUMERALS

- 4 EFM MODULATING PORTION
- 5a 8-14 CONVERTING PORTION
- 5b CONNECTION BIT SELECTING PORTION
- 6 SWITCH
- 7a DSV NORMAL CONTROLLING PORTION
- 7b DSV SPECIAL CONTROLLING PORTION
- 8 SYSTEM CONTROLLER
- 29 MONITOR PORTION THAT MONITORS REPRODUCTION STATE
- 30 SYSTEM CONTROLLER
- 44 GLASS ORIGINAL
- 54 8-16 MODULATING PORTION
- 57a DSV NORMAL CONTROLLING PORTION
- 57b DSV SPECIAL CONTROLLING PORTION
- S1 CONTROLLING REGISTER = 0
- S2 SECOND SYMBOL PRECEDED BY EFM FRAME SYNC ?
- S3 SUBTRACT TARGET VALUE FROM CONTROLLING REGISTER.
- S4 MODULATE SYMBOL IN ACCORDANCE WITH EFM.
- S5 LIST ALL POSSIBLE PATTERNS OF "CONNECTION BITS + EFM SYMBOL" .
- S6 CALCULATE "DSV VALUE OF CONTROL RESISTER + CONNECTION BITS +
DSV VALUE OF EFM SYMBOL" FOR EACH SELECTED PATTERN.
- S7 SELECT PATTERN FROM LISTED PATTERNS SO THAT CALCULATED RESULT
IS CLOSEST TO 0.
- S8 OUTPUT SELECTED "CONNECTION BITS + EFM SYMBOL" .
- S9 ADD DSV VALUE OF CONNECTION BITS + EFM SYMBOL TO CONTROLLING

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REGISTER.

S10

ENCODE COMPLETED ?